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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/759,080

01/20/2004

William Gobush

5222-034-US01

7157

79175

7590

03/10/2009

HANIFY & KING PROFESSIONAL CORPORATION  
1875 K STREET, NW  
SUITE 707  
WASHINGTON, DC 20006

EXAMINER

PINHEIRO, JASON PAUL

ART UNIT

PAPER NUMBER

3714

MAIL DATE

DELIVERY MODE

03/10/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/759,080	<b>Applicant(s)</b> GOBUSH, WILLIAM	
	<b>Examiner</b> Jason Pinheiro	<b>Art Unit</b> 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 13, 18-37 and 41-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-13, 18-37 and 41-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. After the amendment filed on 10/29/2008: Claims 1, 6, 18, 22, 24, 28 and 37 were amended, 11, 14-17 and 41-42 were cancelled and claims 41-43 were newly added. As a result claims 1-10, 12-13, 18-37 and 41-43 are pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1, 4-13, 18-27 35 and 43-45 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Gobush '367 (US 2002/0173367) in view of Kiraly (US 2004/0032970) and Gobush '719 (US 5,575,719).

Re claims 1 and 43-45: Gobush '367 discloses a single-camera system for monitoring the movement of a striking instrument that impacts with an object (para. 0074, lines 2-7) comprising: (a) a single camera unit (para. 0074, lines 2-7; para. 0076, line 2) having a light sensitive panel (para. 0035, lines 1-3) that is operable to be focused on a field of view through which the striking instrument passes prior to striking the object (para. 0015, lines 2-10; para. 0017, lines 1-5), wherein said single camera unit is operable to shutter or gate at least two times as the striking instrument and object pass through the field of view (para. 0017, lines 5-7; para. 0031, lines 14-16); (b) three or more contrasting areas on the

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striking instrument (para. 0003, lines 3-7; para. 0067, lines 14- 15) and one or more contrasting areas on the object (para. 0067, lines 4-12), said areas positioned so that light emitting therefrom reaches said light sensitive panels to form images thereon and create image signals when the camera shutters are open (para. 0003, lines 3-5; para. 0010, lines 6-7; para. 00671 lines 20-22); (c) an image analyzer operable to discriminate between the striking instrument contrasting areas and the object contrasting areas (para. 0002, lines 1-3; para. 0017, lines 7-10; para. 0064) and determining the conditions of the path and orientation of the instrument through the field (para. 0029, lines 3-9; para. 0099, lines 3-7); and (d) wherein the striking instrument has a striking face (Figs. 5 & 14: part of the golf club that hits the ball), and wherein the striking instrument is calibrated (para. 0083) such that the single-camera system is operable to identify the position and orientation of the striking face from the striking instrument contrasting areas (para. 0003, lines 1-7; para. 0099, lines 1-7); and wherein the instrument is a golf club (claim 27) comprising a club head and a club face (Fig. 5; Fig. 14) wherein the object is a golf ball (Fig. 4; Fig. 9; Fig. 14; claim 27), and wherein the image analyzer is operable to determining the club head path and face orientation during a swing of the club (para. 0029, lines 3-9; para. 0099, lines 3-7), and wherein the image analyzer is operable to determining the location of impact of the golf ball on the club face (para. 0099, lines 3-7).

However, Gobush '367 fails to disclose a single camera system and a rotatable calibration fixture having a pivot point and a plurality of predetermined contrasting

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areas, wherein three dimensional positions of the plurality of predetermined contrasting areas are known relative to each other. Kiraly discloses such (para. 0007, 0009, 0017- 0024, 0057). Gobush '367 also fails to disclose determining a location of impact of the golf ball on the club face with an accuracy of 0.10 inch. Gobush '719 discloses determining a location of impact of the golf ball on the club face with an accuracy of 0.25 inch (Col. 7, Lines 20-21). Although Gobush '719 does not specifically disclose an accuracy of 0.10 inch, it would have been obvious to one skilled in the art at the time of the invention to utilize a more accurate image analyzer in order to yield the predictable result of creating a more sensitive device and thereby generating more accurate and better results.

Therefore, in view of Kiraly and Gobush '719, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the aforementioned limitations in order to yield the predictable result of reducing expense and weight of having multiple cameras and also to calibrate the system through the use of one camera. While Kiraly does not disclose a pivot, it is obvious that in order to keep a fixture attached (so that it cannot be removed so easily), but yet still be able to move the fixture so that a different view of it can be taken, one of ordinary skill in the art would provide a pivot.

Re claim 4: Gobush '367 further discloses the system of claim 1, wherein the striking instrument is calibrated with a priori knowledge of the spatial locations of the striking instrument contrasting areas (para. 0067, lines 14-20).

Re claim 5: Kiraly discloses wherein the calibration fixture has 10 or more contrasting areas (160, Fig. 4).

Re claim 6: The teachings of Gobush '367/Kiraly have been discussed above. However, Gobush '367/Kiraly fails to disclose a calibration attachment having a plurality of contrasting areas, wherein the calibration attachment is operable to be disposed on the striking face, and wherein the position of at least one contrasting area of the calibration attachment is known relative to the striking face when the calibration attachment is disposed on the striking face.

Gobush '719 teaches a calibration attachment (32, Fig. 7) having a plurality of contrasting areas (31a-31c, Fig. 7), wherein the calibration attachment is operable to be disposed on the striking face (32, 7f, Fig. 7), and wherein the position of at least one contrasting area of the calibration attachment is known relative to the striking face when the calibration attachment is disposed on the striking face (col. 4, lines 5-28).

Therefore, in view of Gobush '719, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a calibration attachment having a plurality of contrasting areas, wherein the calibration attachment is operable to be disposed on the striking face, and wherein the position of at least one contrasting area of the calibration attachment is known relative to the striking face when the calibration attachment is disposed on the striking face, in order to obtain a more accurate measurement of the striking instrument's swing characteristics.

Re claims 7-8: The teachings of Gobush '367/Kiraly have been discussed above. However, Gobush '367/Kiraly fails to disclose the single camera unit configured to capture at least one image of the striking instrument when it is within about 2 inches or less from the object. Gobush '367/Kiraly also fails to disclose the single camera unit configured to capture at least one image of the striking instrument when it is within about 1 inch or less from the object.

Gobush '719 teaches the single camera unit configured to capture at least one image of the striking instrument when it is within the object (Fig. 5; col. 5, lines 1-15; col. 5, lines 35-37: it doesn't matter how many inches the club is away from the ball, as long as the club and ball are within the camera's view, the cameras are capturing the electronic images).

Therefore, in view of Gobush '719, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the single camera unit to capture at least one image of the striking instrument when it is within the object within camera view in order to obtain a more accurate measurement of the striking instrument's swing characteristics.

Re claim 9: Gobush '367 further discloses the system of claim 1, further comprising an electronic light source that emits light in two flashes onto the instrument and object (para. 0050, lines 3-6; para. 0075, lines 1-4).

Re claim 10: Gobush '367 further discloses the system of claim 1, wherein the striking instrument has four contrasting areas and the object has six contrasting areas (para. 0066; claim 18, lines 6-8).

Re claim 12: Gobush '367 further discloses the system of claim 11, wherein the golf club is a golf club driver or iron (para. 0085, lines 15-18: it is well known in the art, that there are different types of golf clubs, including drivers, irons and putters).

Re claim 13: Gobush '367 further discloses the system of claim 11, wherein the golf club is a putter (para. 0085, lines 15-18: it is well known in the art, that there are different types of golf clubs, including drivers, irons and putters).

Re claim 18: Gobush '367 further discloses the system of claim 11, wherein the image analyzer is operable to determine one or more of a droop angle, a loft angle, a face angle, a path angle, or an attack angle of the golf Club (para. 0099, lines 3-7).

Re claim 19-20: The teachings of Gobush '367/Kiraly have been discussed above. However, Gobush '367/Kiraly fails to disclose the accuracy of the image analyzer for determining the golf club droop angle, loft angle, face angle, path angle, or attack angle within 3 degrees. Gobush '367/Kiraly also fails to disclose the accuracy of the image analyzer for determining the golf club droop angle, loft angle, face angle, path angle, or attack angle within 1 degree.

Gobush '719 teaches the accuracy of the image analyzer for determining the path angle within 1 degree (col. 7, 1st table, row 9 under col. "Standard Deviation").



Therefore, in view of Gobush '719, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an accuracy of the image analyzer for determining the path angle within 1 degree in order to obtain a more accurate measurement of the path angle.

Re claim 21: Gobush '367 further discloses the system of claim 18, wherein the accuracy of the image analyzer for determining the golf club droop angle, loft angle, face angle, path angle, or attack angle is comparable to the accuracy of a 2-camera system (para. 0004; para. 0005, lines 8-10; para. 0029, lines 1-3; para. 0074, lines 1-7; para. 0076; para. 0087, lines 1-6).

Re claims 22-23: Gobush '367/Kiraly further discloses the accuracy of the image analyzer for determining club head velocity (para. 0099, lines 3-7) comparable to the accuracy of a 2-camera system (para. 0004; para. 0005, lines 8-10; para. 0029, lines 1-3; para. 0074, lines 1-7; para. 0076; para. 0087, lines 1-6). However, Gobush '367/Kiraly fails to disclose the image analyzer operable to determine the club head velocity with an accuracy within 20 feet per second.

Gobush '719 teaches the accuracy of the image analyzer for determining the image analyzer operable to determine the club head velocity with an accuracy within 20 feet per second (col. 7, 1st table, rows 1-3 under col. "Standard Deviation").

Therefore, in view of Gobush '719, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the image analyzer operable to determine the club head velocity with an accuracy within 20

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feet per second in order to obtain a more accurate measurement of the club head velocity.

Re claim 24: Gobush '367 further discloses the system of claim 1, wherein the single camera unit is operable to shutter or gate at least three times as the striking instrument and object pass through the field of view (para. 0017, lines 5-7; para. 0031, lines 1-7).

Re claim 25: Gobush '367 further discloses a triggering unit for determining when the single camera captures an image of the striking instrument and object (para. 0031, lines 1-4).

Re claim 26: Gobush '367 further discloses the system of claim 25, wherein the triggering unit comprises a light source, a reflector, and an optical sensor (para. 0003, lines 6-7; para. 0005, lines 14-18; para. 0033, lines 1-7).

Re claim 27: Gobush '367 further discloses the system of claim 25, wherein the triggering unit comprises an ultrasonic (para. 0032, lines 7-8; para. 0033, line 1: ultrasonic uses acoustic frequencies) emitter (para. 0031, line 3) and receiver (para. 0031, lines 1-2).

Re claim 35: Gobush '367/Kiraly discloses the above except for the following which Gobush '719 discloses: providing a calibration attachment (32, Fig. 7) having a third plurality of contrasting areas (31a-31c, Fig. 7), wherein the three-dimensional positions of the third plurality of contrasting areas on the calibration attachment are known relative to each other (col. 4, lines 5-28); placing the calibration attachment on a striking face of the striking instrument so

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that the first and second captured images of the first and second perspective views of the striking instrument and second plurality of contrasting areas further comprise images of the third plurality of contrasting areas (col. 3, lines 66-67; col. 4, lines 19-21); and removing the calibration attachment from the striking face (col. 4, lines 27-28).

Therefore, in view of Gobush '719, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the aforementioned limitations in order to calibrate the striking face and improve the accuracy of the single camera system.

4. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gobush '367/Kiraly/Gobush '719 in view of Gobush '896 (US 2002/0155896).

Re claim 2: The teachings of Gobush '367/Kiraly have been discussed above. However, Gobush '367/Kiraly fails to disclose the striking instrument, which is calibrated such that the spatial location of the contrasting areas are known relative to the geometric center of the striking face.

Gobush '896 teaches the striking instrument, which is calibrated such that the location of the contrasting areas (markers) are known relative to the center of the striking face (para. 0100).

Therefore, in view of Gobush '896, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calibrate the striking instrument such that the location of the contrasting areas are known relative to

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the center of the striking face in order to obtain a more accurate measurement of the striking instrument's swing characteristics.

Re claim 3: The teachings of Gobush '367/Kiraly/Gobush '719 have been discussed above. However, Gobush '367/Kiraly/Gobush '719 fails to disclose the striking instrument, which is calibrated such that the body coordinates of the striking instrument are known relative to the striking instrument contrasting areas.

Gobush '896 teaches the striking instrument, which is calibrated such that the coordinates of the striking instrument are known (para. 0099, lines 1-2) relative to the striking instrument contrasting areas (para. 0100, lines 1-6).

Therefore, in view of Gobush '896, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calibrate the striking instrument such that the coordinates of the striking instrument are known relative to the striking instrument contrasting areas in order to obtain a more accurate measurement of the striking instrument's swing characteristics.

5. Claims 28-32 and 37 are are rejected under 35 U.S.C. 103(a) as being unpatentable over Gobush '367 (US 2002/0173367) in view of Kiraly (US 2004/0032970)

Regarding claims 28 and 37: Gobush '367 discloses a method of monitoring the movement of a striking instrument that impacts with an object (para. 0074, lines 2-7) comprising the steps of: (a) providing a single camera unit (para. 0074, lines 2-7; para. 0076, line 2) having a light sensitive panel (para. 0035, lines 1-3) that is operable to be focused on a first field of view (para. 0015,

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lines 2-10; para. 0017, lines 1-5); (h) placing a striking instrument having a second plurality of contrasting areas (para. 0003, lines 3-7; para. 0067, lines 14-15) within the first field of view of the single camera unit to provide a first perspective view of the striking instrument and second plurality of contrasting areas (A, Fig. 14; claim 28, lines 1-9); (i) capturing a first image of the first perspective view of the striking instrument and second plurality of contrasting areas (Figs. 12-13; claim 28, line 10); (j) providing a second perspective view of the striking instrument and second plurality of contrasting areas (B, Fig. 14); (k) capturing a second image of the second perspective view of the striking instrument and second plurality of contrasting areas (Figs. 12-13); (l) analyzing the second plurality of contrasting areas in the first and second images of the striking instrument to determine the three-dimensional positions of the second plurality of contrasting areas (para. 0017, lines 7-9; para. 0028; para. 0029, lines 6-9; claim 28, lines 11-13); and determining at least one of club velocity, attack angle, droop angle, a loft angle, and a face angle from the three dimensional positions of the second plurality of contrasting areas (para. 0099, lines 3-7).

Gobush '367 discloses the above except for the following which Kiraly discloses: (a) providing a single camera unit (para. 0017-0024); (b) providing a calibration fixture having a pivot point and a first plurality of contrasting areas, wherein three-dimensional positions of the first plurality of contrasting areas are known relative to each other (160, Fig. 4; para. 0007, 0009, 0056-58); (c) placing the striking instrument in the calibration fixture at a first orientation within the first

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field of view, wherein the striking instrument comprises a second plurality of contrasting areas (para. 0007, 0057); (d) capturing a first calibration image of a first perspective view of the calibration fixture and first plurality of contrasting areas and the striking instrument and second plurality of contrasting areas (para. 0007, 0057); (e) rotating the calibration fixture to a second orientation by the pivot point to provide a second perspective view of the calibration fixture and first plurality of contrasting areas and the striking instrument and second plurality of contrasting areas (para. 0007, 0057); (f) capturing a second image of the second perspective view of the calibration fixture and first plurality of contrasting areas (para. 0007, 0057); (g) analyzing the first plurality and second plurality of contrasting areas in the first and second calibration images to create a three-dimensional global coordinate system (para. 0007).

Therefore, in view of Kiraly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the aforementioned limitations in order to yield the predictable result of reducing expense and weight of having multiple cameras and also to enable calibration of the system through the use of one camera. While Kiraly does not disclose a pivot, it is obvious that in order to keep a fixture attached (so that it cannot be removed so easily), but yet still be able to move the fixture so that a different view of it can be taken, one of ordinary skill in the art would provide a pivot.

Re claim 29: Gobush '367 further discloses that the first perspective view of the striking instrument and second plurality of contrasting areas differs from

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the second perspective view of the striking instrument and second plurality of contrasting areas from about 5 to about 10 degrees (para. 0038, lines 5-9).

Re claim 30: Gobush '367 further discloses that the step of providing a second perspective view of the striking instrument and second plurality of contrasting areas comprises repositioning the striking instrument (para. 0028; Fig. 14: to move from position A, which is the first perspective view to position B, which is the second perspective view, the club must be repositioned).

Re claim 31: Gobush '367 further discloses that the step of providing a second perspective view of the striking instrument and second plurality of contrasting areas further comprises maintaining the first field of view of the single camera unit (para. 0017, lines 5-6).

Re claim 32: Kiraly discloses that the calibration fixture has 10 or more contrasting areas (160, Fig. 4).

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gobush '367/Kiralyin view of Gobush '383 (US 5,471,383).

Gobush '367/Kiraly discloses the above except for a first axis of the global coordinate system parallel to gravity, a second axis of the global coordinate system directed toward a target, and a third axis of the global coordinate system orthogonal to the first and second axes.

Gobush '383 discloses such (col. 11 and 12). Therefore, in view of Gobush '383, it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to include the aforementioned limitations in order to align the sensor panel in the camera. (col. 11, lines 65-67).

7. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gobush '367/Kiraly in view of Gobush '896 (US 2002/0155896).

Re claim 34: Gobush '367/Kiraly discloses the above except for wherein the steps of capturing the first image of the first perspective view of the striking instrument comprises capturing the first image prior to impact with the object.

Gobush '896 discloses such (para. 0075, lines 11-16). Therefore, in view of Gobush '896, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the aforementioned limitations in order to calibrate the striking instrument.

Re claim 36, as understood: Kiraly discloses that the step of capturing a second image of the second perspective view of the striking instrument and second plurality of contrasting areas comprises capturing the second image after impact with the object (para. 0007, 0057).

### ***Response to Arguments***

8. Applicant's arguments filed 10/29/2008 have been fully considered but they are not persuasive.

9. Regarding applicant's argument that "a skilled artisan would not have been motivated to combine Gobush '719 and Gobush '367 because their combined teachings are incompatible". The Examiner must respectfully disagree. Gobush '367 discloses



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monitoring movement of the striking instrument that impacts with an object (paragraph [0074]) and Gobush '719 is relied upon for the disclosure of an accuracy of which the location of impact of the golf ball on the golf club face (Col. 7, Lines 20-21). Although Gobush '719 does not specifically disclose an accuracy of 0.10 inch, it would have been obvious to one skilled in the art at the time of the invention to utilize a more accurate image analyzer in order to yield the predictable result of creating a more sensitive device, which would motivate one skilled in the art at the time of the invention to combine Gobush '367 and Gobush '719 in order to yield the predictable result of generating more accurate and better results.

**10.** Regarding applicant's argument that "Kiraly is describing two different methods of calibrating a camera that involve taking pictures of marks positioned on a target". The Examiner must respectfully disagree. The information disclosed in the background section of the Kiraly reference referring to prior art is still disclosed in the Kiraly reference itself and therefore can be used to reject the limitations in the claims on which it reads. Kiraly discloses the limitations (b)-(g) as disclosed above.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Pinheiro whose telephone number is (571)270-1350. The examiner can normally be reached on M - F 8:00 AM - 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on (571) 272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dmitry Suhol/  
Supervisory Patent Examiner, Art  
Unit 3714

/J. P./  
Examiner, Art Unit 3714